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(54) Title: METHODS AND COMPOSITIONS INVOLVING S-SHIP PROMOTER REGIONS

- -600 AGAAGTGATCTGGGCTGGACAGACTAGCTGAACTGGCCAGCTCTGGGTTC
- -550 ATCAAGAAACCCTACCTCCATAACATAAAGTGTGATGGAGAAAGGCACCT

- Fox factor binding sites
 -400 ATAAATAAGTAAATAAATAATATTTAGCTCTCCAGACCAAATCTTGGT
- Oct4 Pax8
 -350 GAAACCCATGCATTTGCATTTGTGTGTGTGTCTACAAACACTGAAGGTTAA
- O. C
- -300 GAAGCATGCTCCTTAGTAATTTTATAGCAGTTTGCGTTTCCAGATTGAAA
- Gata/Lmo2
 -250 ACAGATTCTATAGGCTACACAGTGCTAAATGGATTATGCTCAGATACAGA
- Smad3/4 -200 TTGAAAAGGATACAGATTGAAAAGGGTCGGGGTCTGGGCCAGGATGACGG
- p53 Stat1/5
 -150 GCCAACTATCTTTGCCCGGGCTTGTCCTTCAGGGAAGGGTTACAGGATTC
- Gata / Lmo2
- -100 ACCACTGGGGTGTGGCCTATCTGCTGTTAGGACCTGAATTGCCTGGAGTG
 Initiator stem-SHIP region
- -50 TTTCTAGTTCCCACTAGTTGTTGAACTTTACCTTGAACCTCTGCTCCCAG

(57) Abstract: The present invention concerns *s-ship* promoter and developmental decision promoter compositions and methods of using the promoter. It includes polynucleotides, vectors, host cells, and transgenic animal including a developmental decision promoter, for example, an *s-ship* promoter, controlling the expression of a heterologous nucleic acid. Methods of the invention concern methods of expressing a heterologous nucleic acid is a tissue-specific, developmental-specific, or temporally controlled manner. Other methods includes screening methods and therapeutic methods.



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